

The Official Newsletter of the Gwinnett Amateur Radio Society

June 2021 <http://www.gars.org/> Volume 30, Issue 6



The

GARzette



June 2021 GARS Meeting: Ice Cream Social at Harbins park



The Georgia QSO Party



TechFest

GARS meeting Tuesday, June 8, 2021 at 7:00 pm

President's Message

From the President...

GARS successfully orchestrated another Dacula Memorial Day Parade. Everyone in attendance seemed to have a wonderful time. Perhaps attendees enjoyed it more since last year's parade was cancelled due to the pandemic. From what I could see, the GARS Volunteers had a great time, too. I know I certainly did. How could you not have a good time while being amongst the glitter and glam, and cool machinery of all kinds? And all was done while honoring our Nation's fallen heroes. Look for pictures from this event within this month's newsletter.

I am looking forward to seeing everyone at the next GARS meeting, to be held June 8th. It will be our annual pre-Field Day Ice Cream Social! This meeting will be held In-Person, Outdoors, at the Field Day pavilion in Harbins Park. This meeting is mostly a social event; however, we will go over some of the 2021 Field Day operational details. Bring your brown bagged evening meal if you would like to do so. We will NOT be hosting this meeting via Zoom.



With Field Day coming later in this month, June 26-27, we will be explaining logging instructions at our June GARS Workshop. The Workshop will be held via Zoom. So, plan to attend in order to see how we can have you participate in Field Day with GARS, even if you cannot join us live at Harbins Park on Field Day weekend.

Last but not least, we can also look forward to our meeting in July! Our July meeting will be the first In-Person meeting of GARS since early in the pandemic. We will meet at the EAA hanger at Lawrenceville's Briscoe Air Field. This meeting will be our first step towards moving back into normal, in-person meetings. Yes, we will still simulcast via Zoom for those who cannot attend in person. We look forward to seeing you there.

73,

Joe Biddle, AD4PZ

Club President

GARS Meetings & Workshops

GARS Meetings and Workshops

Will be held online until further notice. See <http://www.gars.org> for more information

GARS Virtual Login and Zoom Etiquette

Due to COVID-19 the following events are being held via Zoom video conferencing. login info will be posted to <http://www.gars.org> prior to the meeting.

Meetings and Workshops are OPEN to all, feel free to share your invite with others.

- Workshops and Meetings will be **recorded**. By participating you consent to being **recorded**.
- Please change your display name to Your **FirstName Call Sign**, e.g. **Hiram W1AW**
- [How to change Your Display Name in Zoom](#)
- Please stay muted until ready to speak. Your space bar works like a PTT for un-muting
- To be fair to everyone, there will be a three minute limit for each person during Q & A
- You may ask questions in chat; **please stay on topic while using chat.**

GARS Meetings Schedule (second Tuesday @ 7:00 PM):

- June 08, 2021 – **The yearly ICE CREAM Social at the Field Day site.**
- July 13, 2021 – TBD

Workshop Schedule (third Tuesday @ 7:00 PM):

- June 15, 2021 - [David Adcock KA4KKF](#) - GARS Field Day Chairman - GARS Field Day Planning
- July 20, 2021 - (Speaker TBD) - Power Pole Connectors, Crimped vs Soldered
- August 17, 2021 - (Speaker TBD) - Soldering / Kit Building
- September 21, 2021 – [Steve Back WB2OGY](#) & [Ken Lyons KN4MDJ](#) – Scouting and JOTA

GARS Meeting – June 8, 2021

GARS Ice Cream Social at [Harbins Park, 2995 Luke Edwards Rd, Dacula, GA](#). No Program, just ice cream, friends, and family with a little Field Day planning while we are at the park. Sorry, no Zoom meeting.



GARS Workshop – June 15, 2021

This will be a Zoom meeting; David Adcock KA4KKF (our Field Day Chairman) will go over how we are to use N3FJP Logging Software just like we have for other events. David will also address any other last-minute Field Day topics that need to be discussed.

Inside

President's Message	2
GARS Meetings & Workshops	3
GARS Happenings	5
Net Managers Corner	5
DMR – Thoughts on Using DMR	6
2021 Dacula Parade	8
2021 GARS Scholarship Awards	9
Hallicrafters HT-45 Amplifier	10
GARS Membership	15
GARS Meeting Minutes	17
Events – GARS and others	18
Local VE Sessions & Meetings	20
GARS Supporters	21

GARS Communication

2 Meter Repeaters 147.075(+) MHz Tone 82.5 147.255(+) MHz Tone 107.2 1.25 Meter Repeater 224.580(-) MHz Tone 100.0, 1.6 MHz Offset 70 Cm Repeaters 444.525(+) MHz Tone 82.5 442.100(+) MHz Tone 100 442.325(+) MHz Tone 100	6 Meter Repeater 53.110 (-1 MHz) No Tone (Offline for Maintenance) Other Resources: APRS 144.390 -- 1200 Baud W4GR D-STAR WD4STR 145.060 + (1.4 MHz) 440.550 + (5 MHz)
---	--

**Don't forget
to support our
advertisers at the
back of the
GARzette.**

Snail Mail Address:

GARS
P.O. Box 492531
Lawrenceville, GA 30049

Notable Web Links

Ham Radio Glossary: <https://noji.com/hamradio/glossary.php> a very comprehensive listing provided by Noji Ratzlaff KNØJI. On his site there is also a lot of information about getting started in ham radio.

Need Help – Let GARS Elmers answer your questions

Send an email to elmers@gars.org with the subject listing the area (like Antennas, Repeaters, Digital, DMR etc.) of your query to get to GARS Elmer volunteers.

The *GARzette* is the official monthly newsletter of the Gwinnett Amateur Radio Society, serving its members and other persons interested in the advancement of the Amateur Radio art.

Original articles, art, and photos are invited and encouraged. Previously copyrighted submissions cannot be accepted for reprinting unless permission from the appropriate publisher is provided in writing along with the information being submitted. If reprints are from publications allowing their unrestricted use, please include a copy of the printed permission contained in the publication.

If possible, bring your articles to the monthly meeting in Microsoft Word or rich text (.rtf) or text or HTML format or by e-mail to editor@gars.org. Artwork can be accepted in most any graphics format and can be submitted via e-mail to the same address. Alternate means of submittal can be arranged when necessary.

In keeping with the Amateur Radio spirit, permission is hereby granted for the reproduction of The *GARzette* articles by other Amateur Radio club newsletters provided that proper credit is given to the individual author and *The GARzette*.

The GARzette is published each month with the assistance of Karen KI4HPP and Kyle W4KDA who print copies for distribution at meetings, etc. and Dave Bruse, W4DTR, who distributes the newsletter electronically.

Deadline for submissions is the 28th of each month for inclusion in the following month's issue.

For additional information view our Website at: <http://www.gars.org>

Newsletter Email: editor@gars.org Editor: Bob Hoffman, K4CQO Assistant Editor: Bill Eggers, WB2RIS



GARS HELP WANTED

Speakers Needed for GARS Workshop Presentations, 3rd Tuesday of the month – Email workshop@gars.org to volunteer.

[PS— Articles to publish in the *GARzette*, either written by GARS members or published elsewhere, are always welcome. —Ed.]

GARS Happenings

20 Years ago in the June 2001 GARzette:

There was an article writeup on a GARS ham radio demo at the Lilburn Elementary School

- There is an article about Stan McDonald, KI4H and the starting of GARS
- There was an article on Field Day prep being held at Rohdes-Jordan Park
- GARS did a "Tech Fest" table at the LARC Hamfest

You can always browse the GARzette archive at <http://www.gars.org/newsletters>
73, Bob, K4CQO, GARzette Editor



GARS is starting its **Ham license testing** every second Sunday of the month. The location will be at the GARS meeting and workshop location – EAA 690 Hangar, Gwinnett County Airport – Briscoe Field, 690 Airport Rd, Lawrenceville, GA 30046. Visit GARS.org for the entrance and direction information. This is the current testing location and may change when the covid crisis returns to normal facility availability.

Testing Notes: Social security numbers are no longer accepted – must use the FRN from the FCC Universal Licensing System (ULS) and an email address for FCC correspondence is also required.

Health and Wellbeing – Sandy Jackson, KJ4DRO

Look for this resource on gars.org and use it as a means to convey information about a GARS family member or Silent Key notification.

Net Managers Corner

Monday Night 2 Meter “Want, Swap, Sell, and Information Net”

GARS NEEDS MEMBERS TO SERVE AS NET CONTROL STATIONS!

GARS is a great Amateur Radio service club with the membership and awards to prove it. Our club is very busy and active, and we use the Monday night net to get timely information out to our members. Weekly participation is needed to make our net function well. There is only a small group of very dedicated people who make the net happen each week, and we need more members to volunteer to serve as Net Control Stations (NCS) on a rotating basis.

Out of almost 300 members, there are only seven operators who serve as the NCS for the GARS net every Monday night. In no particular order, they are:

Don – KW4AL	Ray – N4GYN	Bill – WG9NUW	David – KA4KKF
Glen – W3WWT	Russell – AB4QQ	Chuck – KK4TKJ	Charlie – WS4TOT

As GARS Net Manager (Chuck KK4TKJ), I would like to have more volunteers to fill NCS positions. I do plan and post the schedule months in advance. Any conditions will be accommodated that you as a rotating NCS need to place on the scheduling of your duties. If your plans change, I can make adjustments for the schedule to work, and I will make those changes happen as soon as I am notified of a problem. As Net Manager, I also send out reminders each week to let the NCS scheduled know he or she is NCS for the next Monday night net. In short, serving as a rotating NCS is a small duty but a great contribution to the club. The “Want, Swap, Sell Information Net” begins promptly at 19:30 every Monday night and runs about 30 minutes. As a scheduled NCS, you will request the assistance of a volunteer alternate NCS each time you have Net Control. Your simple duties will be to tune in to the GARS repeater, read the script, take a few notes and forward the information to me for record keeping.

Please lend a hand and contact me at KK4TKJ@arrl.net. Sign up to help support the effort that makes GARS the great club that it is.

73 and see you on the Nets!

DMR – Thoughts on Using DMR

An Article provided by Bob Hoffmann, K4CQO

This is a follow-up article on DMR to my initial set of information published a few months ago.

Admit Criteria TX Permit

First off, I had initially suggested that “Color Code Free” was the Admit Criteria (TX Permit) to use. Well, I have since purchased the new AnyTone AT-D878UVII HT and when using my duplex hotspot with both TSs (Time Slot) with different TGs (Talk Group) assigned as static, the only way that I could get access to transmit on, say TS1 when TS2 was busy was to set the Admit Criteria to “Same Color Code”. For all of the other choices (excluding “Always”) I always got channel busy when trying to TX a TG on TS1 when there was traffic on TS2. So, using Same Color Code which means: the radio can transmit only if the channel is free and the color code matches. So, study the manual and understand what the settings mean – I did trial and error, but reading the manual would have been an easier way to get to the solution that worked.

New AnyTone AT-D878UVII

So far I am happy with the new version of the 878, and with the GARS HRO gift certificate give away, I got it a little cheaper! One of the nice things that it has is a lower low wattage setting – went down from 1 W to 0.2 W which is nice when using a hotspot in the same room. I have not noticed it being unable to connect to the hotspot on the deck with the lower power – so far so good.

One of the other things introduced in the 878 VII is better APRS functioning. and that is my next topic.

APRS

There are 2 ways to send the APRS information – using an analog channel and sending it over a TG. Sending it over a TG is dependent on the repeater / hotspot server that you are connected to.

I have been listening and watching on the pi-star dashboard of my hotspot the traffic on TG 91. There are some that are sending the APRS data directly on TG 91. The AnyTone HTs support sending APRS info on both analog and digital channels, but sending the APRS info on a TG that is used for communication is not the right way to do things. The Brandmeister servers provide a TG for APRS information. When it is sent on one of the TGs, it will show up on the APRS.fi google map. The TG to send the APRS data is the first 3-digits of the server # followed by 999 – in the US, all of the Brandmeister start with 310x (3101, 3102, 3103 & 3104) and the TG for the APRS info is 310999.

The analog channels use 144.3900 MHz to send the APRS information. Exactly how to setup your HT / radio is manufacturer dependent, and if the manufacturer’s manuals are like the AnyTone’s manual, they are not very helpful on what settings to actually use. Google to the rescue. For AnyTone 878 radios, there links have good information:

- Analog: <http://www.tim-yvonne.com/ham/dmr/radios/anytone/878-APRS.htm>;
- Talk Group setting: <http://www.tim-yvonne.com/ham/dmr/radios/anytone/daprs.htm>.

The period between sending the APRS info needs to be set too. Since I am mostly using my HT at my home location, sending the APRS info often does not need to be done. Mine is set to the max that the AnyTone CPS allows, and that is every 1½ hours. Don’t use with PTT, unless you are in a situation needing real up to date info – APRS info can congest the APRS servers and no need to send it often when it is not needed!

DMR Information

There are quite a few DMR nets. The one that I frequent is one that several other GARs members also frequent and even share the netop duties! It is every Wednesday on TG 3113 (Georgia state wide)



The

starting at 8:00 PM local time and usually lasts around 1 hour. It has a group of well-versed DMR people that can usually answer most questions – and there are no questions that are too simple that someone on the net will benefit from. The group also is on a Telegram and groups.io (Georgia DMR) and provides another way to get information. Both of these groups are private and you have to join them (keeps spammers at bay – mostly). You can contact me (editor@gars.org) on how to join. There is also GARS Elmers that can help with DMR and other topics (elmers@gars.org).

Hotspot Frequencies

In a previous article, I listed the hotspot frequencies. Well, apparently that are more than one idea about which ones to choose! I use the ones that I listed in the March 2021 GARzette (http://www.gars.org/newsletters/2021_03_GARZETTE.pdf) and others use the ones specified by the Southeastern Repeater Association: [Frequency Utilization Plans – SERA](#) with separate downloads for the frequency bands. The SERA frequencies should definitely be used if you beef-up your hotspot to transmit to a larger area than just your location.

The entire article is available on-line, see
http://www.gars.org/newsletters/2021_06_GARZETTE.pdf

2021 Dacula Parade

DACULA MEMORIAL DAY PARADE

The Dacula Memorial Day Parade happened this year after missing last year due to the covid pandemic. Permission to hold the parade was not received until two months ago so it was not expected to be as large as in the past – but it was. Despite the short time frame there were 90 participants composed of approximately 2000 people in the parade. 24 GARS volunteers lined them up and got them off on time.

We were proud to honor our veterans especially those who are no longer with us. They gave up so much so that we may have the freedoms we enjoy.

Be sure to thank those GARS volunteers who helped make this year's parade a success.

David - KA4KFF	Dallas - N4DDM
Bob - K4QCO	Glen - W4WWT
Steve - WB2OGY	Steve - KN4VCQ
Randy - N4COR	Fischer - KF4FWN
Pam - AB4AKQ	Don - KW4AL
Hope - KO4PVM	Robert - KK4QCI
Russell - AB4QQ	Mike - N4MEP
Joe - AD4PZ	Doug - KB6RRX
Andre - K4ALS	John - KK4JXU
Bill - WB4WTN	Jamie - X4HA
Rick - N4XYY	Hal - 4IGE
Chuck - KK4TKJ	Earl - AF4FG





The

2021 GARS Scholarship Awards

Dear Friends,

On behalf of the ARRL Foundation Officers and Board, I am pleased to announce the 2021 recipient of The Gwinnett Amateur Radio Society Scholarship in the amount of \$1000.

Brianna Greenberg, KK4VFP, Valdosta, GA has been selected for The Gwinnett Amateur Radio Society Scholarship from an outstanding group of applicants. Scholarship recipients were recently notified of their awards, and we have already had many replies conveying their excitement and appreciation.

Scholarships through the ARRL Foundation would not be available without the support of thoughtful and generous sponsors such as you. Thank you for making The Gwinnett Amateur Radio Society Scholarship possible, and for aiding a student Amateur Radio operator in his/her pursuit of their higher education. I am confident that these young people will be successful in their future careers, and in representing Amateur Radio as well.

Again, many thanks for your support of this award. If you have any questions, please contact ARRL Foundation Secretary Melissa Stemmer, KA7CLO at ARRL (mstemmer@arrl.org or 860-594-0348).

73,

Dr. David Woolweaver, K5RAV
President
ARRL Foundation

Hallicrafters HT-45 Amplifier

Vintage Amateur Radio

de Bill Shadid, W9MXQ



Hallicrafters HT-45 Amplifier - Hallicrafters Answer to the Collins 30L-1

On the heels of last month's presentation about the Hallicrafters SX-117 Receiver and HT-44 Transmitter (and the SR-150 Transceiver before that) comes a review of the HT-45 Linear Amplifier and the Radio Industries Loudenboomer model. Customers buying the SX-117/HT-44 Twins or the SR-150 Transceiver would find the HT-45 to be a perfect match. This amplifier became a direct competitor to the Collins 30L-1 Linear Amplifier but was potentially a good deal more powerful – at least in the power supply and tube plate dissipation. Below you can see the Hallicrafters HT-45 Linear Amplifier that is in operation at W9MXQ . . .



Hallicrafters HT-45 Mark IIA 80-10 Meter Linear Amplifier (Hallicrafters P-45 High Voltage Power Supply is Separate.)

(W9MXQ Shack Photo)

The Hallicrafters HT-45 Linear Amplifier was capable of operating on most of the HF spectrum from 3.5 to 30 MHz, as were its mates, the SX-117/HT-44 and the SR-150. There was some efficiency drop-off outside the traditional 80 – 10 Meter bands of the time. This amplifier was developed by a Hallicrafters subsidiary operation, Radio Industries, Inc., of Kansas City, Kansas. That amplifier was known as the Loudenboomer. That name was kept with the release of the HT-45. Note the word "Loudenboomer" both on the front of the HT-45, above, and on the front of the Radio Industries version, below:



Radio Industries Loudenboomer Mark IIA 80-10 Meter Linear Amplifier (Radio Industries PS-2A High Voltage Power Supply is Separate.)

(W9DYQ Shack Photo)

The Radio Industries Loudenboomer and the Hallicrafters HT-45 share all physical and electrical specifications. Despite the color differences in the included photographs, the two amplifiers might well have shared the same front panel silk screening. The black insert panel and trim at the top of the HT-45 Front Panel are separate pieces. I have not removed them from my HT-45 but I suspect I would see the Radio Industries panel with the Radio Industries and Loudenboomer name blanked. Further

indication of using the same silk screen is noticed when looking at the word “LOADING” at the right side of the amplifier. You will see that the trim piece there nearly covers the “L” in that word. If a separate design screen had been used, this could have been adjusted. That is just one of several trivia items in these products.

The HT-45 used a newly designed triode from Eimac – the 3-400z. This is the predecessor tube to the long popular 3-500z that most of us know. 3-400z tubes today are nearly unobtainable. Some of these amplifiers (both brands) can be found today with an Amperex 8163 triode. The Amperex 8163 (also now nearly unobtainable) was a competing tube to the Eimac 3-400z but was slightly taller and was a very tight fit in the cabinet of these amplifiers. To my knowledge, neither Radio Industries nor Hallicrafters branded amplifiers ever shipped with Amperex tubes from the factory.

For a review, look at comparable specifications for the HT-45 (and Loudenboomer) and its competitive target, the Collins 30L-1:

Specification	Amplifier	
	Collins 30L-1	Hallicrafters HT-45
Band Coverage	80-10 Meters	80-10 Meters
Power Amplifier Tube(s)	Four 811A Triodes	One 3-400z Triode
Total Dissipation	260 watts	400 Watts
Circuit	Zero Bias Grounded-Grid	Zero Bias Grounded-Grid
Input Circuit	Tuned – 50 Ohm Impedance	Tuned – 50 Ohm Impedance
Cooling	Simple fan across the Tubes	Pressurized Cooling System
Input Power	1,000 Watts SSB/CW	1,000 Watts SSB/CW
Drive Power for Full Output	100 Watts	50 Watts
Power Output	500 – 600 Watts	500 – 600 Watts
Plate Voltage	1,800 Volts	3,000 Volts
Total Weight	38 Pounds	Amplifier – 28 Pounds Power Supply – 75 Pounds

(Collins 30L-1, Radio Industries Loudenboomer, and Hallicrafters HT-45 Operating Manuals)

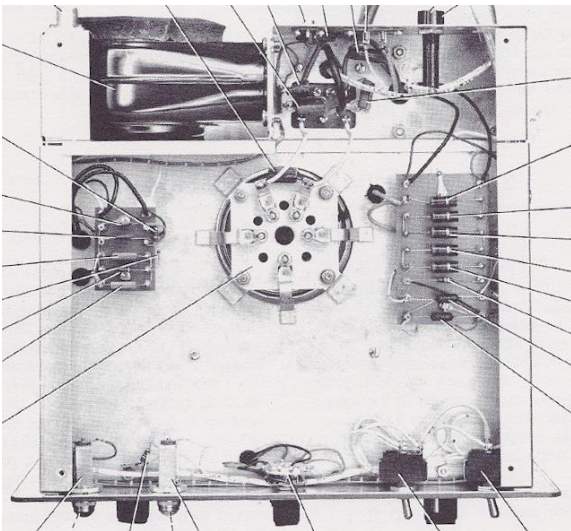
This comparison covers just these popular “table top” amplifiers. (The Hallicrafters P-45 Power Supply for the HT-45 was floor mounted – so maybe “table top” is a bit of a stretch!) The total weight of the HT-45 (at 103 pounds with its power supply) was far more than the 30L-1. That was related to the extremely underutilized P-45 Power Supply in the Hallicrafters system. I am sure that the P-45 Power Supply could have handled much more power. However, the single Eimac 3-400z tube perhaps could not. One wonders if Hallicrafters had plans for a two-tube version of the HT-45. Remember, however, that at that time there was disagreement on the point of 2,000 watts PEP input for SSB. Hallicrafters in those years did not agree with that specification and had no amplifiers rated beyond 1,000 watts. Indeed, even Collins rated the bigger 30S-1 Linear Amplifier (floor mounted amplifier and power supply weighing 170 pounds) at 1,000 watts input. Same as the 30L-1. The 30S-1 could produce far more than 1,000 watts input power.

The HT-45 has a rather unique tuned input. And, in fact, both the Collins 30L-1 and the Hallicrafters HT-45 worked with exciters (32S-1 from Collins and HT-44 from Hallicrafters, respectively) that required a load impedance very close to 50 Ohms. Collins did this with tunable Pi-Network input circuits – one for each of its five bands, 80 – 10 Meters. The Hallicrafters input was a “wide-band ferramic transformer” (to quote their actual terminology), “which is broad-band tuned and essentially flat from 3.5 to 30 MHz.” This was all well and good but the HT-45 was super critical to drive level and anything more than 50 watts presented to the input of the amplifier would cause great problems and terrible signal reports caused by overdrive. To resolve this, the Operating Manual for the HT-45 includes design and building instructions for a 3-dB RF Pad that tames the drive power and makes the input circuit of the HT-45 operate as smooth as silk.

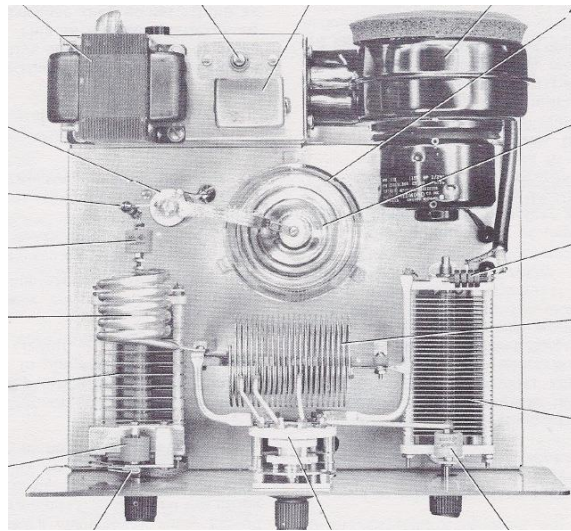
I have owned both the Radio Industries Loudenboomer and now the Hallicrafters HT-45 amplifiers. My original Loudenboomer and its matching 3-dB pad lives on with my fellow collector, Bob, W9DYQ. My current HT-45 has its own 3-dB pad, also based on the HT-45 Operating Manual. The pad uses a total of 38, 2-watt carbon composition resistors. As you would expect, the pad dissipates about 50 watts, peak.

Unlike the Collins 30L-1, and many other amplifiers of the time, the Hallicrafters HT-45 does not have in/out RF switching. When connected to its exciter (such as the Hallicrafters HT-44 Transmitter) it runs 1,000 watts input – period. A relay switching system needs to be designed to handle proper switching – keeping the 3-dB pad inside the amplifier part of the circuit (to prevent a 3-dB loss to the receiver). There is no hint of this in Hallicrafters’ documentation. If you find yourself in need of help making either the 3-dB pad or the relay switching system, you may always contact the author of this article for suggestions and some direction. I built my own switching relay from scratch. Such relays were readily available back in the 1960’s from P&H Electronics, Dow Key, and others. But, those are long gone, today. Homebrew is about the only option today.

Here is a peek inside the workings of the HT-45 Linear Amplifier . . .



**Hallicrafters HT-45 Linear Amplifier
Inside Bottom View
(Front Panel at Bottom of Picture)**



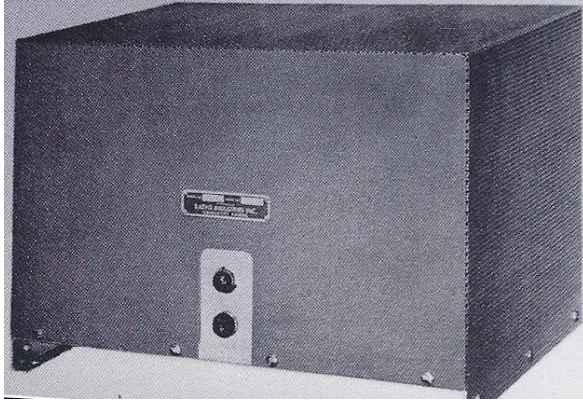
**Hallicrafters HT-45 Linear Amplifier
Inside Top View
(Front Panel at Bottom of Picture)**

(Hallicrafters HT-45 Mark IIA Operating Manual)

In the bottom view you can see that the grid connections on the 3-400z socket are directly grounded to the chassis. The Mark II Model of the Radio Industries and Hallicrafters amplifiers had the grid pins going to ground through 0.005 uF mica capacitors. In the same view you can see, in the upper left-hand corner, the blower connected to the chamber housing the AC and Control lines from the P-45 Power Supply – which is open to the main chamber where the tube socket is mounted. All air must flow out of the blower, through the AC/Control input area, into the main socket area, and out via the chimney surrounding the 3-400z final amplifier tube.

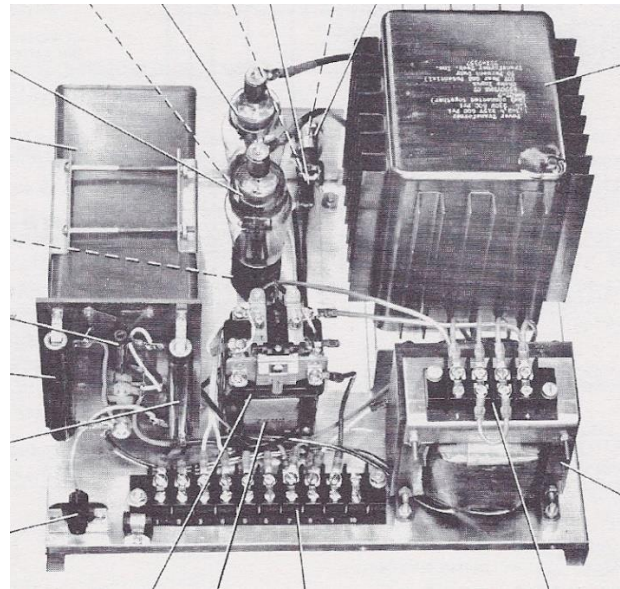
Turning the amplifier over shows the 3-400z tube surrounded by its chimney (open at the top) forcing air past the tube socket pins at the bottom, around the tube envelope, and then exiting around the plate cap. In this Top View you can see the TUNING (left) and LOADING (right) capacitors and the Band Switch connected to the tank coils. You will also see the filament transformer (top left in the picture) and the Blower Assembly. Between the filament transformer and the blower, you can see the housing for the “wide-band ferramic transformer.”

Now let's look at the 75-pound P-45 High Voltage Power Supply. (The Radio Industries P-2A Power Supply is the same.) This is a true monster. It was before the days of the high silicon steel power transformer laminations. Even so, with modern iron in the transformer and choke, this power supply would still be heavy.



**Hallicrafters P-45 Power Supply
Radio Industries P-2A Power Supply
(Exterior Front Quarter View)**

(“Radios by Hallicrafters,” Chuck Dachis 1999)



**Hallicrafters P-45 Power Supply
Radio Industries P-2A Power Supply
(Interior View - Bottom is Cabinet
Rear)**

(Hallicrafters HT-45 Operating Manual)

Some of these power supplies were delivered with the supply mounted on a piece of half-inch plywood attached to the bottom of the cabinet. My P-45 is mounted that way.

The front view shows the cover in place with a high voltage indicator lamp on top, on the small panel, with the primary fuse below it. The other picture – reversed front to back from the outer view, shows the Plate Transformer at the upper right, the Plate Choke at the lower right, with the 110/220 VAC jumper strip on top of that choke, the AC Power-On Relay in the middle just below center, and the two 866A Mercury Vapor Rectifier tubes at top center that are in a full-wave, center-tapped circuit. At the upper left is an 8 uF, 3,000-volt Oil Filled Capacitor. There is a Millen high voltage connector at the lower left corner of the chassis plus a 10-pin terminal strip for interconnection with the amplifier.

The Hallicrafters P-45 and the Radio Industries P-2A Power Supplies are interchangeable and, like the two amplifiers, were built by the Radio Industries Subsidiary.

The HT-45 is very clean, simple, and effective design. It gets the same results (and maybe a bit more) than its target competition, the Collins 30L-1. One mystery (there are always mysteries in these old radios!) is why Hallicrafters selected vacuum tube rectifiers. Maybe Hallicrafters President, Bill Halligan, ex-W9AC, liked that blue flash in sync with SSB modulation and CW keying – just like me! Do you think?

In closing, here are two pictures of the HT-45 Linear Amplifier in operation at W9MXQ. Top is with the SX-117/HT-44 Receiver/Transmitter. Bottom is with the SR-150 Transceiver. The HT-45 is quiet and provide a good added signal punch to the exciter. The HT-45 also adapts well with other brands of the 1960's as well as radios of today.



Left to Right: HT-45, HT-44, PS-150-120, SX-117
(with D-104 Mic, HA-8 Spatter Guard, HA-1 Keyer, HA-10 Keyer, VibroKeyer)
 (W9MXQ Shack Photo)



Left to Right: HT-45, SR-150, PS-150-120, HA-1
(with D-104 Mic, HA-8 Splatter Guard, VibroKeyer)
 (W9MXQ Shack Photo)

A sincere thanks extended to Bob, W9DYQ, for his proofreading skills!! Bob also has a set of Hallicrafters twins but uses them with the earlier Loudenboomer (Radio Industries) version of this amplifier. Until next time – 73, and keep those old radios running on the bands!!

© **W9MXQ**

The entire article is available on-line, see
http://www.gars.org/newsletters/2021_06_GARZETTE.pdf



The

GARS Membership

New Members List in May

Chris Beals (KO4QBC)
Scott Bosier (KN4BJJ)
Trey Bradley (KO4LOR)
Conor Huneycutt (KN4VNU)
Daniel Kent (KO4PNM)

New Members: 5

**Total Members as of
May 31, 2021
349**

Join GARS members for our weekly breakfast
gathering at
7:30 AM most Saturdays
Now at
Cracker Barrel Restaurant
75 Celebration Dr.
Suwanee, GA 30024

Birthdays in June

Mark Bell (N7GRB)
Harold Brown (KI4FPR)
Neil Cleveland (WB4OXY)
Hope Collier (KO4PVM)
John Davis (WB4QDX)
Jim Gaffney (K4YNA)
John Gammons (KO4JTD)
Sarah Harden (KK4WEM)
James Hinkle (AG4ON)
Kevin Horde (K4EVN)
Joseph Keyes (K3YES)
Yubin Lin (KM4TVY)
Fisher Londono (KN4FWN)
Ralph Matchette (KE4IHD)
Rick Morris (KD4VOJ)
Lew Newlin (KM4YWK)
Brian Page (N4TRB)
Robert Pence (KM4AAP)
Charles Roberts (K4HFO)
Ron Rogers (WW8RR)
Evelina Silva (KO4FQI)
Royce Stovall (KD4EXY)
Bill Van Duynhoven (KE4TVA)
Courtney Wagner (KN4GZI)

GARS MEMBERSHIP

Your current GARS membership status is shown in the monthly newsletter e-mail towards the bottom of the message.

To become a GARS member, or to renew your GARS membership, please visit our website—<http://www.gars.org>

To make changes to your GARS membership (moved, new e-mail address, new phone number, etc.), please e-mail the Membership Committee - membership@gars.org

You can renew or update your Amateur Radio license information with the FCC at their website for free
<http://wireless.fcc.gov/uls/index.htm?job=home>

To update your ARRL information, please visit their website - <http://www.arrl.org>

Membership Chair: Karen Albritton, KI4HPP

Committee Members: Dave Bruse, W4DTR



The

Repeater Status

6M	Currently down
147.075	Operational in Snellville
147.255	Operational in Snellville
224.580	Operational in Grayson
442.100	Operational at Goshen Springs
442.325	Operational in Buford
444.525	Operational in Snellville

Link remote receivers being added

Donating to GARS

Your GARS donation can be used for a certain purpose by donating to one of these funds:

- GARS SK Memorial Fund for Education (to remember and honor Silent Keys);
- GARS Scholarship Fund (Administered by the ARRL for awarding scholarships);
- GARS General Fund (any club purpose).

GARS has joined these rewards programs (a portion of every purchase you make through these merchants may be donated to GARS):

- Amazon Smiles;
- Kroger Community Rewards program.

For more information on how to sign up for these rewards programs, or to donate to GARS, visit

<http://gars.org/gars/donations-to-the-club>

GARS on Social Media



Discord Request:

<http://gars.org/discord>



Groups.io:

<http://gars.org/groups.io>



Visit GARS on Facebook:

<http://gars.org/facebook>



Follow GARS on Twitter:






<http://gars.org/twitter>



Join GARS on YouTube:

<http://gars.org/youtube>





Officers

Joe Biddle, President	AD4PZ	
Jamie Burns, Vice President	KX4HA	
Bill Hawkins, Secretary	WR1TR	
Pam Meridy, Treasurer	WB1AKQ	
Kevin Scott, Program Manager	K4GTR	

Managers and Committee Chairs

Karen Albritton, Membership Chair	KI4HPP	
Dave Bruse, VE Team Leader	W4DTR	
David Adcock, Webmaster and Field Day Chair	KA4KKF	
Ralph Pickwick, Apparel Manager and Education Chair	KJ4CNC	
Glen Wendt, TechFest Chair	W3WWT	
Bob Hoffmann, GARzette Editor	K4CQO	
Eddie Foust, Repeater Chair	WD4JEM	
Mike Weathers, WAS / DXCC QSL Card Checker and Historian	ND4V	
Chuck McCord, Net Manager	KK4TKJ	
Steve Back, Technical / RFI Advisor	WB2OGY	
Joe Biddle, Winter Field Day Chair	AD4PZ	
Kyle Albritton, Multimedia Chair	W4KDA	
Don Stewart, Elmer Manager	KW4AL	
Sandy Jackson, Health and Wellbeing	KJ4DRO	
Dave Slotter, Georgia QSO Party Chair, Workshop Leader and Public Information Officer	W3DJS	

Directors and Trustees

John Davis, WB4QDX		Rick Cobb, N4XY	
Mike Weathers, ND4V		Bill Cherepy, WB4WTN W4GR Trustee	



The

GARS Meeting Minutes

Gwinnett Amateur Radio Society – GENERAL 5/11/2021

President Joe Biddle (AD4PZ) and Opened the meeting
at 7:00pm and Closed the meeting at 8:45 pm

(Covid-19 Alternative Online)

~~EAA Facility, 690 Hanger Rd. Lawrenceville, GA.~~

Online participants: 36

Treasurer Report: Joe (AD4PXZ)

- Presented the financial report.

Membership Report: Dave (W4DTR)

- Reported the Membership is at 345

Education: Joe (AD4PZ)

- Check GARS.org to order Field Day shirts
- Ralph will be at McConnell Middle School simplex or repeater Wed 5/13/21

Programs: Kevin (K4GTR) and Joe (AD4PZ)

- Upcoming programming being worked on
- June is all about Field day. Ice cream social at the park.
- Starting in July we will be meeting in person at the airport.

Workshop: Dave (W3DJS)

- May workshop - 6m and meteor scatter WB5GY Bennet Smith.
- June workshop – Field Day logging

Memorial Day Parade: Earl (AF4FG)

- Requested volunteers
- Announced program to review parking and organization

Field Day: Joe (AD4PZ)

- June 6
- Multiple stations
- In the park live

Silent Key Inventory: Joe (AD4PZ)

- Request for volunteer to coordinate SK inventory for sale
- Funds to go to scholarship funds.
- Storage locker is arranged
- Contact Joe if you would like to volunteer.
- Could be ebay or local sales, but ebay is difficult due to returns.
- Paul Kelley suggested that we offer gear to club members before taking it to outside sales.

Program – Ryan Kovacs W4GI – UHF/VHF contests

****Future Event dates** are recorded at the time of the General Meeting and subject to change.

Submitted by: Bill Hawkins (WR1TR) GARS Secretary

Workshop Minutes - May 18, 2021

Number in Attendance: 32

Workshop Topic: Intro to 6 Meters & Meteor Scatter Radio Sports

Presenter: [Bennett Smith WB5GVY](#)

Brief Summary: Bennett showed us that with his modest in attic antennas due to HOA restrictions he has confirmed 25 DXCC and over 370 grids on 6m. He explained how he has used Sporadic E, Tropospheric Ducting, Transequatorial Propagation, and Meteor Scatter to make contacts using digital modes. Check his [in-depth QRZ bio](#) for more.

Door Prize Winners: Ben NJ8J and Jon K5JDG - 10\$ HRO Gift Certificates.

Submitted by: Dallas N4DDM



The

Events – GARS and others

ARRL CONTESTING INFO

From ARRL Contest Calendar
> For more information click the links <

June 2021

12-14 [June VHF](#)
19 [Kid's Day](#)
26-27 [Field Day](#)

July 2021

10-11 [IARU HF World Championship](#)

August 2021

7-8 [222 MHz and Up Distance Contest](#)
14-15 [10 GHz & Up – Round 1](#)
15 [Rookie Roundup – RTTY](#)

September 2021

TBD [EME - 2.3 GHz & Up](#)
11-13 [September VHF](#)
18-19 [10 GHz & Up - Round 2](#)

October 2021

18-22 [School Club Roundup](#)
TBD [EME - 50 to 1296 MHz](#)

November 2021

6-8 [Nov. Sweepstakes - CW](#)
20-21 [Nov. Sweepstakes - Phone](#)
TBD [EME - 50 to 1296 MHz](#)

December 2021

3-5 [160 Meter](#)
11-12 [10 Meter](#)
19 [Rookie Roundup-CW](#)
18-19 [EME - 50 to 1296 MHz](#)

January 2022

1 [Straight Key Night](#)
1 [Kid's Day](#)
8-9 [RTTY Roundup](#)

15-17 [January VHF Contest](#)

February 2022

14-18 [School Club Roundup](#)
19-20 [International DX – CW](#)

March 2022

No planned contests

April 2022

10 [Rookie Roundup – Phone](#)

For more information:
<http://www.arrl.org/contest-calendar>

HAMFEST CALENDAR

[Please confirm the status of a Hamfest before making plans to attend. – Ed.]

06/12/2021 - 2nd Annual Pre-Field Day Tailgator Gathering

Location: Dade City, FL
Type: ARRL Hamfest
Sponsor: Dade City Masonic Lodge
Website: <http://dadecitymasoniclodge.com>

06/12/2021 - K4KDI Summer Tailgate 2021

Location: Orlando, FL
Type: ARRL Hamfest
Sponsor: South Conway Baptist Church
Website: <http://>

06/19/2021 - Black Warrior Hamfest

Location: Northport, AL
Type: ARRL Hamfest
Sponsor: Black Warrior Hamfest
Website: <http://BlackWarriorhamfest.org>

08/14/2021 - Fort Pierce Hamfest

Location: Fort Pierce, FL
Type: ARRL Hamfest
Sponsor: Fort Pierce Amateur Radio Club
Website: <http://FPARC.ORG>

08/21/2021 - 08/22/2021

Huntsville Hamfest, ARRL Southeastern Division Convention

Location: Huntsville, AL
Type: ARRL Convention
Sponsor: Huntsville Hamfest Inc
Website: <https://hamfest.org>

08/21/2021 - TarcFest XLV

Location: Tampa, FL
Type: ARRL Hamfest
Sponsor: Tampa Amateur Radio Club
Website: <http://www.hamclub.org>

10/08/2021 - 10/09/2021

56th Annual Melbourne Hamfest, ARRL Florida State Convention

Location: Melbourne, FL
Type: ARRL Convention
Sponsor: Platinum Coast Amateur Radio Society
Website: <http://pcars.org>

For more information: <http://www.arrl.org/hamfests-and-conventions-calendar>

When searching by division, remember some states adjacent to GA are in different divisions:

Southeastern: GA, AL, FL Delta: TN Roanoke: NC, SC



The

GARS Events Calendar for 2021		GARS Recurring Calendar
TechFest General HamCram Dog Show Fundraiser Georgia QSO Party North metro area Fox Hunt Spring Technician HamCram Memorial Day Parade ARC/KARC Hamfest Field Day Summer General HamCram Fall Technician HamCram JOTA Maker Faire Stone Mt. Hamfest Holiday Party	Cancelled for 2021 TBD April 1-4 2021 April 10-11 2021 April 2021 April 2021 May 31 2021 Cancelled June 26-27 2021 TBD TBD October 16-17 2021 TBD November 6-7 2021 December 14 2021	<ul style="list-style-type: none"> 2nd Tuesday of the month at 7 pm (except December): Monthly Club Meeting (online until further notice) 3rd Tuesday of the month at 7 pm (except December): Monthly Workshop (online until further notice) 2nd Sunday of the Month at 2 pm GARS Ham Exam Session 690 Airport Rd Lawrenceville, GA 30046 Every Monday at 7:30 pm: GARS Want, Swap, Sell, and Information Net on the GARS 147.075 MHz repeater Every Monday at 8:30 pm: ARES Training on the GARS 147.075 MHz repeater Most Saturdays at 7:30 am : GARS Weekly Breakfast Cracker Barrel Restaurant 75 Celebration Dr., Suwanee, GA 30024
	GARS CALENDAR FOR June 2021	

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
		1 7:00 – 8:00 PM GARS Exec Meeting (Online)	2	3	4	5 Breakfast at Cracker Barrel in Suwanee 7:30 AM
6	7 7:30 – 8:00 PM GARS 2M Net	8 7:00 – 8:00 PM GARS Meeting Ice Cream Harbins Park	9	10	11	12 Breakfast at Cracker Barrel in Suwanee 7:30 AM
13 2:00 PM GARS Ham Radio Exam Session EAA 690 Hangar	14 7:30 – 8:00 PM GARS 2M Net	15 7:00 – 8:00 PM GARS Workshop (Online)	16	17	18	19 Breakfast at Cracker Barrel in Suwanee 7:30 AM
20	21 7:30 – 8:00 PM GARS 2M Net	22	23	24	25	26 2021 Field Day Harbins Park
27 2021 Field Day Harbins Park	28 7:30 – 8:00 PM GARS 2M Net	29	30			

Local Ham Radio Exams & Meetings

Local Ham Radio Exams

[Please check with each session contact for current status.—Ed.]

GARS publishes Metro Atlanta VE exam schedules as a service and is not responsible for errors or changes. Call and confirm schedules before going. All sessions are walk-in, unless otherwise noted. Take copies of current license and certificate of completed elements with you to all sessions. Find additional sessions online at <http://www.arrl-ga.org>

First Sunday, ODD Months

2 pm (Jan, Mar, May, Jul, Sep, & Nov)

VEC: WCARS

Braselton Public Utility Building

4986 Highway 53, Braselton, GA

Contact: Nat Christman K4VQ, 678-371-7103

christmans30680@gmail.com

First Sunday, EVEN Months

2 pm (Feb, Apr, Jun, Aug, Oct, Dec)

VEC: WCARS

Hall County EOC

470 Crescent Dr. Gainesville, Ga.

Contact: Perry Roper, KO4RD

(770) 536-3056

Second Saturday

10:00 AM

Alpharetta North Park, Adult Activities Center

13450 Cogburn Rd, Alpharetta, GA 30004

Contact: Ian Kahn, KM4IK

E-mail: km4ik.ian@gmail.com

Third Saturday, ODD Months

VEC: ARRL

9:30 am (Walk-ins welcome)

Stone Mountain Masonic Lodge

840 VFW Drive

Stone Mountain, GA 30083

Contact: Frank Haynes, KV4SP

Email: fhaynes@vatmom.net

(678) 467-3712

First Sunday, EVEN Months

VEC: WCARS and W5YI

2 pm @ Barrow Co. Emerg. Serv. Bldg

66 McElroy Street

Winder, GA 30680

Contact: Mike Wolcott, W4WYI

(404) 281-6581

E-mail: W4WYI@ARRL.net

Fourth Tuesday

ARRL VEC

7 pm @ United Way Service Center

6279 Fairburn Rd., Douglasville

Contact: Jessie Clower, KB4WFK

(770) 942-6466

Fourth Sunday

2:30 pm Georgia Tech

VanLeer Elec. Building

Rm. W218, 777 Atlantic Dr.

For more information go to www.w4aql.com and click on "Test Sessions"

GARS Ham Radio Exams

Second Sunday of the month

VEC: W5YI

2 pm At the EAA 690 Airport Hanger

Face Masks: Non-vaccinated preferred (but not mandatory)

- Temperature Checks: If you don't feel well, please be respectful of our volunteers and stay home.

Testing Notes, see page 5.

GARS VE Team Leaders

E-mail: exams@gars.org

GARS VE Website: <http://gars.org/exams> has location information



Local Meetings

[Please check with each club for meeting schedule and method (online, etc.) - Ed.]

First Tuesday

Kennehoochee ARC

Fire Station #1, Training Room

112 Haynes Street, Marietta, GA

Meeting begins at 7:00pm

Talk In 146.880(-)

First Thursday

Atlanta Radio Club

Georgia Red Cross HQ

1955 Monroe Dr., Atlanta, GA

Meeting is at 7:30pm

Talk In -146.820(-)

N.E. Georgia ARC

Commerce Public Library

1344 South Broad Street, Commerce, GA

Meeting is at 6:30pm

Talk In - 147.225(+), PL 123.0

Second Monday

Georgia Tech ARC

Room W218

Van Leer Electrical Engineering Bldg.

Georgia Tech Campus

Meeting at 7:00pm

Sawnee Amateur Radio Association

Beaver Toyota

1875 Buford Highway, Cumming, GA

Meeting at 6:30

Second Thursday

Alford Memorial Radio Club

Annistown Road Baptist Church

Annistown Rd & Spain Rd

Stone Mountain, GA

Dinner at 6:00pm, Meeting at 7:30pm

Talk In - 146.760(-)

Second Saturday

North GA QRP Club

Board Room of The Shepherd Center

2020 Peachtree Rd, NW, Atlanta, GA

at 10:00 AM

Third Tuesday

North Fulton Amateur Radio League

Alpharetta Recreation & Parks Dept.

Alpharetta Adult Activity Center

13450 Cogburn Road, Alpharetta, GA

meeting at 7:30pm

Talk In - 145.47(-)

For more information, go to:

<http://www.gars.org/>

GARS Supporters

[Note: [Ham Radio Outlet](#) is open to limited walk-in traffic! Masks follow state guidelines.]

Serving You From Coast to Coast and Around the World



Order Toll-Free From a Location Near You
Or Take Advantage of Secure 24-Hour Ordering:
<http://www.hamradio.com>



If your closest 800 number is busy, please call one of our other numbers.

Phone Hours: 9:30 am to 5:30 pm Monday – Saturday

All Stores Open 10am - 5:30pm Monday - Saturday

24-Hour FAX Order Lines at all Store Locations

Ham Radio Outlet App available at:



ATLANTA, GA 30340

6071 Buford Hwy, Doraville

1 mile north of I-285

(770) 263-0700

(800) 444-7927

24 Hour FAX (770) 263-9548

Email: atlanta@hamradio.com

Toll Free Numbers:

Northeast (800) 644-4476

West (800) 854-6046

Southeast (800) 444-7927

Mountain (800) 444-9476

Mid-Atlantic (800) 444-4799

New England (800) 444-0047

Manager:

Mark KJ4VO

Assistant Mgr:

James KK4WNX

David AI4XL

Denise


Ken KI4BQS

Ray WN5FB

Koz KD3GC



INTERBOROREFRIGERATION
HVAC/R



All branch Ice Machine
Walk-in Box Cooler

Licensed by E.P.A.

Central A/C - Heater and Water Heater
All Commercial Refrigeration Systems
Ice Cream Freezer
All Jobs Guaranteed

30 years of Experience

Reparation & Maintenance
Luis Castellanos
owner

Address: 470 Bay lake pass,
Lawrenceville, GA 30046

Tel.: 610-816-8744
Email: el-piloto52@hotmail.com

Finally
A clog-free gutter
with no fine print.



The Real GUTTER PROTECTOR
NO CLOGS, NO OVERSHOOT, GUARANTEED.

You'll never have to clean your gutters again.
The Real Gutter Protector's Waterloov®
System uses a patented design that slows
water more effectively and draws water in

Real Estate Broker

Century 21
21 Results Realty

Buying*Selling*Investing
For Any Real Estate
Matters

There has never been a
better time to invest in Real
Estate

Inventory is LOW
It's a Seller's Market

SHARON ADCOCK
CRS, GRI, e-Pro,
Relocation Expert,
Associate Broker

www.SharonAdcock.com
2920 Ronald Reagan Blvd
Cumming, GA 30041

Sharon@
SharonAdcock.com
Cell: 404-428-9127
eFax 678-679-1383



Not intended